CLAIMS

1. An aqueous composition comprising:

about 0.05 to about 15 mg/ml of TFPI or TFPI variant;

about 50 to about 600 mM of a solubilizing agent selected from the group consisting of (i) arginine or an analog thereof, (ii) lysine or an analog thereof, and (iii) mixtures of (i) and (ii); and

an antioxidant selected from the group consisting of (i) an oxygen displacement gas, (ii) an oxygen or free radical scavenger, (iii) a chelating agent, and (iv) mixtures thereof;

wherein the aqueous composition has:

a percent aggregation stability of about 45% or greater;

a percent oxidation stability of about 45% or greater; and

a pH from about 4 to about 8.

2. The composition of claim 1 which comprises TFPI variant, wherein the TFPI variant is about 70% or more homologous to TFPI (SEQ ID NO:1).

3. The composition of claim 2 wherein the TFPI variant is ala-TFPI.

4. The composition of claim 1 wherein the solubilizing agent is arginine and the arginine is in a form selected from the group consisting of a hydrochloride salt, L-arginine, and a free base.

5. The composition of claim 1 comprising about 300 mM of the solubilizing agent.

6. The composition of claim 1 wherein the antioxidant is an oxygen displacement gas.

7. The composition of claim 6 having a dissolved oxygen concentration that is less than about 10% relative to a dissolved oxygen concentration of an aqueous composition of TFPI or TFPI variant that does not comprise the oxygen displacement gas.

8. The composition of claim 6 wherein the oxygen displacement gas is selected from the group consisting of nitrogen enriched air, nitrogen enriched oxygen, nitrogen, a noble gas, methane, ethane, propane, carbon dioxide, and mixtures thereof.

9. The composition of claim 8 wherein the displacement gas is nitrogen.

10. The composition of claim 1 wherein the antioxidant is an oxygen or free radical scavenger or a chelating agent and the antioxidant has a concentration of about 0.01 to about 20 mM.

11. The composition of claim 10 wherein the antioxidant has a concentration of about 1 to about 10 mM.

12. The composition of claim 1 wherein the antioxidant is an oxygen or free radical scavenger and has a concentration of about 0.1 to about 10 mM.

13. The composition of claim 1 wherein the antioxidant is an oxygen or free radical scavenger selected from the group consisting of methionine, ascorbic acid, sodium ascorbate, L-alpha tocopherol, DL-alpha tocopherol, D-alpha tocopherol, L-alpha tocopherol acetate, DL-alpha tocopherol acetate, D-alpha tocopherol acetate, betacarotene, selenium, pyritinol, propyl gallate, butylated hydroxyanisole, butylated hydroxytoluene, butylated hydroxytoluenemethionine, and mixtures thereof.

14. The composition of claim 13 wherein the antioxidant is methionine and the methionine is L-methionine.

15. The composition of claim 13 wherein the antioxidant is methionine wherein the methionine is present in an amount such that the composition comprises a molar ratio of non-TFPI methionine to TFPI methionine of about 1:1 to about 1000:1.

16. The composition of claim 1 wherein the antioxidant is a chelating agent selected from the group consisting of: (i) an amino carboxylate compound or derivative thereof; (ii) EDTA or a derivative thereof; (iii) DTPA or a derivative thereof; (iv) BAPTA or derivatives thereof; (v) EGTA or a derivative thereof; and (vi) mixtures of (ii), (iii), (iv), and (v).

17. The composition of claim 1 which has a pH of about 5 to about 6.5.

18. The composition of claim 1 which has an osmolarity of about 240 mOsmol/L to about 600 mOsmol/L.

19. The composition of claim 18 which has osmolarity of about 290 mOsmol/L.

20. The composition of claim 1 which has a half-life during storage of about 1 to about 24 months at a temperature of about 30°C.

21. The composition of claim 1 further comprising a buffer selected from the group consisting of: (i) an acid substantially free of its salt form; (ii) an acid in its salt form; and (iii) a mixture of an acid and its salt form.

22. The composition of claim 21 wherein the buffer is an acid substantially free of its salt form and the acid is selected from the group consisting of citric acid, succinic acid, phosphoric acid, glutamic acid, maleic acid, malic acid, acetic acid, tartaric acid, and aspartic acid.

23. The composition of claim 21 wherein the buffer comprises a mixture of an acid and its salt form, wherein:

the acid is selected from the group consisting of citric acid, succinic acid, phosphoric acid, glutamic acid, maleic acid, malic acid, acetic acid, tartaric acid, and aspartic acid; and

the salt form of the acid is selected from the group consisting of a sodium, potassium, calcium, and magnesium salt of a conjugate base of the acid.

24. The composition of claim 23 wherein the buffer is selected from the group consisting of citric acid/sodium citrate, succinic acid/sodium succinate, phosphoric acid/sodium phosphate, glutamic acid/sodium glutamate, maleic acid/sodium maleate, malic acid/sodium malate, acetic acid/sodium acetate, tartaric acid/sodium tartarate, and aspartic acid/sodium aspartate.

25. The composition of claim 21 wherein the buffer has a concentration of about 5 to about 30 mM.

26. The composition of claim 1 wherein the percent aggregation stability is about 45% or greater to about 50% or greater.

27. The composition of claim 1 wherein the percent aggregation stability is about 45% or greater to about 99% or greater.

28. The composition of claim 1 wherein the percent oxidation stability is about 89% or greater.

29. The composition of claim 1 wherein the percent oxidation stability is about 45% or greater to about 99% or greater.

30. A pharmaceutical composition, comprising:

the aqueous composition of claim 1; and

a pharmaceutically acceptable excipient.

31. The pharmaceutical composition of claim 30 wherein the percent aggregation stability is about 45% or greater to about 99% or greater.

32. The pharmaceutical composition of claim 30 wherein the percent oxidation stability is about 45% or greater to about 99% or greater.